REMARKS

I. General

Claims 1-22 are pending, and no claims are amended by this response. The Office Action mailed October 5, 2005 rejects claims 1-9 and 20-22 and allows claims 10-19. The issues in the current Office Action are as follows:

- Claims 1-6 are rejected under 35 U.S.C. §102 as being anticipated by US 6,621,067 (hereinafter, *He*).
- Claims 1 and 2 are rejected under 35 U.S.C. §102 as being anticipated by US 5,127,066 (hereinafter, *Poggiolini*).
- Claims 7-9 and 20-22 are rejected under 35 U.S.C. §102 as being anticipated by US Provisional Patent Application 60/230,687 (hereinafter, *Sluz*).
- Claims 10-19 are allowed.

Applicant hereby traverses the rejections and requests reconsideration and withdrawal in light of the remarks contained herein.

II. Allowed Subject Matter

Applicant notes with appreciation that claims 10-19 are indicated by the Examiner as being allowed. While Applicant presents arguments herein with regard to rejected claims, Applicant also thanks the Examiner for this indication of allowable subject matter.

III. Notes on Sluz

Applicant thanks the Examiner for his time and consideration in responding to Applicant's request for a copy of *Sluz*. However, as noted below, *Sluz* is not a prior art reference for this application.

IV. Claim Rejections

A. Rejections over He

The Office Action rejects claims 1-6 under 35 U.S.C. §102(e) as being anticipated by *He*. Applicant respectfully traverses this rejection.

Claim 1 recites, in part:

> periodically changing said SOP of said polarization-scrambled optical signal with time, such that said periodically changing polarization-scrambled optical signal covers approximately an entire Poincaré sphere surface during each time period of said periodic changing (emphasis added).

Without admitting that *He* teaches other elements alleged to be taught by the Office Action, Applicant respectfully asserts that *He* fails to teach the above recited element. The Office Action indicates that *He* teaches the above recited element in line 67 of column 9 through line 3 of column 10. However, the cited portion of *He* only teaches:

> Using a polarization controller, the SOP of the light from a light source 64 is varied in such a way as to cover, in time, substantially all of the points on the Poincaré sphere. (Emphasis added.)

In other words, *He* teaches that the SOP of the light from a light source is varied in such a way as to eventually cover substantially all of the points on the Poincaré sphere, and, accordingly, does not teach the above-quoted feature of claim 1.

In Response to Arguments, the Office Action states:

> *He* discloses that the SOP covers an entire Poincare sphere in a period of time ("in time"). In other words, the SOP of the signal is changed periodically, and in a time period, the signal covers an entire Poincare sphere.

Office Action at 6. The quoted argument above is incorrect for at least two reasons. First, the recited claim language specifies that the Poincaré sphere surface is approximately covered "during each time period of said periodic changing." Without conceding that the Office Action's argument above is correct, it is respectfully asserted that even if it is correct, *arguendo*, it only shows a single time period, rather than "during each time period of said

periodic changing," as claimed. Covering a Poincaré sphere in a single time period is not enough, by itself, to teach the Poincaré sphere surface is approximately covered "during each time period of said periodic changing," as in claim 1.

Second, "in time," as taught by *He*, is different from a time period. For instance, "in time" refers to an undefined time that is not limited to any particular period, and, in fact, "in time" may theoretically stretch indefinitely or infinitely. Thus, *He* does not teach the claimed "periodically changing said SOP of said polarization-scrambled optical signal with time, such that said periodically changing polarization-scrambled optical signal covers approximately an entire Poincaré sphere surface during each time period of said periodic changing." Therefore, Applicant respectfully asserts that at least for the above reasons independent claim 1 is patentable over the 35 U.S.C. § 102 rejection of record.

Claims 2-6 ultimately depend from independent claim 1, and thus each of claims 2-6 inherits all limitations of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, each of claims 2-6 set forth features and limitations not recited by *He*. Hence, Applicant respectfully asserts that claims 2-6 are also patentable over the 35 U.S.C. § 102 rejection of record.

B. Rejections over Poggiolini

The Office Action rejects claims 1 and 2 under 35 U.S.C. §102(e) as being anticipated by *Poggiolini*. Applicant respectfully traverses this rejection.

Claim 1 recites, in part:

> periodically changing said SOP of said polarization-scrambled optical signal with time, such that said periodically changing polarization-scrambled optical signal covers approximately an entire Poincaré sphere surface during each time period of said periodic changing (emphasis added).

Without admitting that *Poggiolini* teaches other elements alleged to be taught by the Office Action, Applicant respectfully asserts that *Poggiolini* fails to teach the above recited element. The Office Action indicates that *Poggiolini* teaches the above recited element in the passages at column 3, lines 7-10 and 24-26, and claim 4. However, the cited portions of

Poggiolini do not teach such feature. Rather, the cited portions teach that "the vector representing the state of polarization on the Poincare sphere moves on a great circle of such a sphere by an angle increasing in time according to a sinusoidal function of period equal to symbol period" (emphasis added). In other words, *Poggiolini* does not teach that a periodically changing polarization-scrambled optical signal covers approximately an entire Poincaré sphere surface, but rather, *Poggiolini* teaches that the vector merely moves on a great circle of the sphere. A great circle of a sphere is a circle that divides the sphere into two equal hemispheres (e.g., the earth's equator). A great circle is not the same as approximately an entire sphere surface. Accordingly, *Poggiolini* does not teach at least this feature of claim 1.

Claim 2 depends from independent claim 1, and thus claim 2 inherits all limitations of claim 1. Therefore, for at least the reasons advanced above in addressing the anticipation rejection of claim 1, claim 2 sets forth features and limitations not recited by *Poggiolini*. Hence, Applicant respectfully asserts that claim 2 is also patentable over the 35 U.S.C. § 102 rejection of record.

C. Rejections over Sluz

The Office Action rejects claims 7-9 and 20-22 under 35 U.S.C. §102(e) as being anticipated by *Sluz*. Applicant respectfully traverses this rejection.

Without conceding that *Sluz* teaches any of the features of claims 7-9 and 20-22, it is noted that *Sluz* is not prior art under 35 U.S.C. §102, and, therefore, the rejection cannot be sustained. Section 102 defines prior art and states that a "person shall be entitled to a patent unless" the conditions set out in one or more of the subsections (a)-(g) are satisfied. Not one of the subsections of 35 U.S.C. §102 apply to *Sluz*, as explained below.

Subsection (a) states that a person shall be entitled to a patent unless:

> the invention was ... patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent[.] (emphasis added)

Subsection (a) does not define *Sluz* as prior art for at least two reasons. First, *Sluz* was not an issued patent in this or a foreign country -i.e., a US Provisional Patent Application is not an issued patent.

Second, *Sluz* was not a printed publication before Applicant's date of invention. (For purposes of this argument and for convenience, Applicant uses its own actual filing date, March 15, 2002, to provide a date that is the latest possible date of invention. However, Applicant notes that the actual date of invention is most likely before the priority date of March 16, 2001, and Applicant reserves the right to assert that the date of invention falls before the filing date and/or the priority date.) A review of the USPTO database reveals that the only issued patent or published application to incorporate *Sluz* by reference or claim priority to *Sluz* is United States Published Application 2002/0109901, which was published on August 15, 2002. Thus, according to the rules requiring confidentiality of pending and abandoned applications, the first time *Sluz* would have been publicly available was August 15, 2002, which is nearly a half-year after Applicant's filing date. See M.P.E.P. §103 for confidentiality guidelines. Accordingly, *Sluz* could not have been a printed publication under 35 U.S.C. §102(a). For these reasons, *Sluz* is not prior art under 35 U.S.C. §102(a).

Subsection (b) states that a person shall be entitled to a patent unless:

> the invention was patented or described in a printed publication in this or a foreign country ... more than one year prior to the date of the application for patent in the United States[.] (emphasis added)

Subsection (b) does not define *Sluz* as prior art for at least two reasons. First, *Sluz* was not an issued patent in this or a foreign country -i.e., a US Provisional Patent Application is not an issued patent. Further, *Sluz* was not a printed publication more than one year before Applicant's priority date, as *Sluz* was not publicly available until nearly a year and a half after Applicant's priority date. Accordingly, *Sluz* was not a printed publication more than one year before Applicant's filing date. Therefore, *Sluz* is not prior art under subsection (b).

Subsection (e) is the statutory basis that the Office Action relies upon for the rejection. Subsection (e) states that a person shall be entitled to a patent unless:

> the invention was described in — (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent...(emphasis added)

Subsection (e) does not define *Sluz* as prior art for at least two reasons. First, *Sluz* was not a granted patent because a US Provisional Patent Application is not a granted patent. Further, *Sluz* was not an application published under section 122(b) because a US Provisional Patent Application is not published under 35 U.S.C. §122(b). Thus, *Sluz* is not defined as prior art under 35 U.S.C. §102(e).

Further, there is no apparent reason why subsections (c), (d), (f), or (g) would apply to the present facts. Thus, for the sake of brevity, such subsections are not discussed in detail regarding the present application or *Sluz*; however, it is believed that those subsections do not preclude patentability of any of the claims of the present application.

Because *Sluz* is not prior art, it cannot be the basis of a proper rejection. Further, the last paragraph on page 6 of the Office Action asserts that *Sluz* can be the basis of an obviousness rejection. However, whether the rejection is based on 35 U.S.C. §102 or 103 is irrelevant, as *Sluz* is unavailable as prior art. Withdrawal of the 35 U.S.C. §102(e) rejection of claims 7-9 and 20-22 is respectfully requested.

V. Conclusion

In view of the above amendment, Applicant believes the pending application is in condition for allowance.

Applicant believes a fee of $60.00 for a one-month extension of time is due with this response. However, if additional fee are due, please charge our Deposit Account No. 06-2380, under Order No. 51519/P001US/10203244 from which the undersigned is authorized to draw.

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Respectfully submitted,

By: Thomas A. Kelton

Thomas Kelton
Registration No.: 54,214
FULBRIGHT & JAWORSKI L.L.P.
2200 Ross Avenue, Suite 2800
Dallas, Texas 75201-2784
(214) 855-7115
(214) 855-8200 (Fax)
Attorney for Applicant